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The Factors Influencing the Acceptance of Web-Based E-Learning System Among Academic Staffs of Saudi Arabia

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ABSTRACT

It is possible to learn more quickly and effectively with e-learning software development because it provides learners with convenient and flexible learning environments. This allows them to progress further in their careers. Reports on web-based e-learning systems for in-service education have frequently neglected to include the viewpoint of the instructor. In order to conduct quantitative research, a sample of 50 academic staff members was selected. The purpose of this study was to investigate various factors that influence the intention to use web-based e-learning, with the theoretical foundation being provided by university lecturers. According to the findings of the study, the intention to use web-based e-learning for in-service training is positively correlated with the motivation to use the Internet and the belief in one's own ability to use the Internet. In terms of intentions to use web-based e-learning in-service training, a statistically significant increase in computer anxiety had an impact. University lecturers embraced Web-based e-learning systems because they believed they would be beneficial and because they were eager to put them to use.

Keywords:

Web-Based E-Learning, Internet, Self-Efficacy, Intension to use

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1. INTRODUCTION

Web-based e-learning and knowledge dissemination are now possible thanks to the Internet. Because of its convenience, education is evolving toward web-based e-learning [1]. Face-to-face training is no longer appropriate in today's information culture. Traditional face-to-face learning methods have become obsolete because of instant feedback. Many new elements are available with web-based e-learning, such as real-time feedback [2]. E-learning is created through the use of the internet. In contrast to traditional textbooks, web-based e-learning tools allow students to learn at their own pace and on their own schedule. Education, on the other hand, has had little impact on people's daily lives or activities. We all want to learn as much as we can as quickly as possible. Because of time and space constraints, learners' ability to choose when and where to learn is restricted, making Web-Based E-Learning less appealing to them [3].

E-learning has the potential to provide opportunities for lifelong learning. It has been proven that gradually introducing web-based electronic learning as a platform for employee training has a positive impact on increasing employee professionalism and information-related abilities. [4]. Many studies have looked at web-based e-learning from a teacher's perspective. In February, I received an enhanced but different version of the article's history. It was accepted on May 11th. On the 8th of December, 2011, I went online [5]. Distance learning Acceptance Model for On-the-Job-Training In virtual classes, teachers can learn quickly and gain knowledge and experience while also saving time. Teacher perspectives are rarely taken into consideration in studies of in-service eLearning. We polled a total of 50 professors. With the help of the SEM, we were able to identify characteristics that influence training usage in web-based courses [6]. According to the study, in-service training that included web-based e-learning was connected to an increase in Internet motivation and self-efficacy. Computers' detrimental impact on web-based inservice elearning training was influenced by their ease of use. E-learning over the internet is convenient and adaptable. Teachers benefit from these strategies because they allow them to learn more quickly. The elements that influence teacher participation in web-based e-learning were investigated. Variables that influence junior high school teachers' participation in web-based e-learning are also covered by the TAM. Two new explanations and predictions of elements that influence new technology use and attitudes are presented [7]. The findings of this model have been applied in a variety of sectors [8]. Its purpose was to identify the major elements that influence instructors' participation in web-based e-learning research.

In e-learning, remote learning refers to a method of learning that is not restricted to a specific time or location. [9] The ability to broaden one's knowledge, locate specific information, and direct one's own learning are all examples of metacognition. E-learning instructors can take advantage of both online instructional resources and community-based knowledge exchange systems [10]. The Internet allows for the rapid and efficient transmission of materials, allowing students to save both time and money as a result. a low-cost training tool that contains a substantial amount of material [11]. Assistance from peers or educators helps students become more engaged in the learning process when they are learning online. Because of the Internet, new information can be accessed more quickly than ever before. [12] A large number of people believe that e-learning is beneficial. Electronic learning has the potential to lower training costs while simultaneously improving memory. Businesses take advantage of e-learning initiatives to their advantage. The

technological divide between those who have access to technology and those who do not has been narrowed as a result of educational e-learning. A consequence of this was that the Aborigine Internet Academy investigated why aboriginal adults chose to learn online [13]. When it comes to professional development, why do junior high teachers use the internet? [14].
We can bridge the digital divide through the use of e-learning. Self-efficacy has an impact on both the acquisition of information and the perception of its usefulness [15]. Students must cultivate habits of lifelong learning from an early age. Teachers have a variety of professional development options available to them, such as seminars and observation training, but these are unlikely to help them achieve their progression goals in the classroom. A new e-learning system has been developed to meet the requirements of teachers [16]. Computer phobia has an impact on the intentions of e-learners to use e-learning resources [17]. In the educational system, the specialisation and position of a teacher have an impact on their students' computer phobia [18]. TAM requirements were met through the application of TRA theory [19]. The primary goal of the model was to determine how external influences affect people's technology beliefs, attitudes, and intentions. The model was developed in collaboration with the University of California at Berkeley. The concept was previously considered to be both beneficial and understandable [20]. The TAM significantly increased the amount of empirical research and investigation.

2. RELATED WORK

It is possible to learn without being restricted by geography or time constraints through e-learning. By embracing online learning and empowering them to expand their knowledge, learners can take charge of their own learning pace [21]. The use of online learning aids and community knowledge-sharing platforms, among other resources, makes it possible to expand the reach of online learning [22]. E-learning, also known as online learning, lowers the costs of transmission and search time for learners while also lowering the costs of production. Electronic learning allows you to receive a large amount of diverse and abundant content in a short amount of time and at a lower cost [23] than traditional learning methods. The ability to communicate with teachers and peers about difficulties with technological learning has now been extended to students. A more engaging learning environment is created when students are given the opportunity to communicate with teachers or their peers. The Internet makes it possible to update educational content in a timely and efficient manner. It has been shown to be an extremely effective learning approach [24] in numerous studies.
You can save money on both learning and training when you use e-learning methods. It is only when a company expects to succeed that it will implement e-learning initiatives. As a result of its ability to close the gap between those who are familiar with computers and those who are not, e-learning has had only a minor impact on society. Several studies were carried out by the Aborigine Internet Academy to determine which personal factors influence aboriginal adults' adoption of e-learning, as well as a variety of social consequences [25]. Teachers who want to improve their e-learning skills will join a network learning community, which will assist them in increasing the amount of time they spend on their own e-learning. Because of its ability to transmit information, elearning has helped to bridge the digital divide that exists between rural and urban areas. Different levels of self-efficacy are associated with the acquisition of technology as well as the perceived utility of the information that it provides [27].
Teachers are expected to continue their studies and collaborate with the government on educational initiatives in the coming months and years. Teachers must pursue additional training, which may

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include courses, in order to achieve their professional objectives. A customised elearning system can be developed by teachers in order to meet the needs of their students [28]. Remember [29] and [30] when assuming that computer fear influences e-learners' intentions to use technology; these studies provide evidence to support this assumption. Computer phobia is influenced by two factors: the teachers' attitudes toward computers and their own areas of expertise [31]. We had to make some changes to the theory of reasoned action (TRA) in order to assist the TAM (Davis, 1986). The goal of this approach was to gain a better understanding of the impact of external influences on beliefs, attitudes, and intentions that influence the use of information and communications technology. In order to evaluate and explain the uptake of new technology, the new model was developed [32]. Following its initial publication, the TAM became the subject of extensive empirical investigation and inquiry, and it is now widely used to predict attitudes toward new information technology, particularly in the workplace. In previous empirical investigations, it has been shown that behavioural intentions are associated with usability and usefulness [33]. In order to better understand the relationship between perceived usefulness, perceived ease of use, and future intents to utilise technologies, TAM will assist us in conducting research. as a building block for a wide range of applications [34]. According to the findings of the research [35], companies reap significant benefits from the use of e-learning systems.

Also important in determining behavioural intentions is the ease of use, and self-efficacy is a critical component of predicting how beneficial a product will be.

3. CONCEPTUALIZATION AND HYPOTHESIS DEVELOPMENT

The goal of this study, among other things, was to look at the elements that influence junior high school teachers' adoption of web-based e-learning systems in Taiwan, which is why it was done in the first place. The participants in this study were Taiwanese junior high school teachers who were allocated to the study at random. The theoretical framework for this inquiry was a refined version of the TAM proposed by [36], which served as the theoretical foundation for this investigation. We identified three elements that influence the acceptability of web-based e-learning based on the findings of the preceding section's literature review: motivation to utilise technology, computer fear, and Internet self-efficacy. In the previous section, several characteristics were identified as influencing the acceptability of web-based e-learning. There are three criteria that we found that influence the acceptability of web-based e-learning. It was feasible to assess whether or not there was a relationship between these three external variables and perceived usefulness and perceived ease of use by looking at the relationship between these three external variables and perceived usefulness and perceived ease of use. The conceptual framework for this study (see Figure 1), as well as the hypotheses that were tested, are described and provided in this paper.

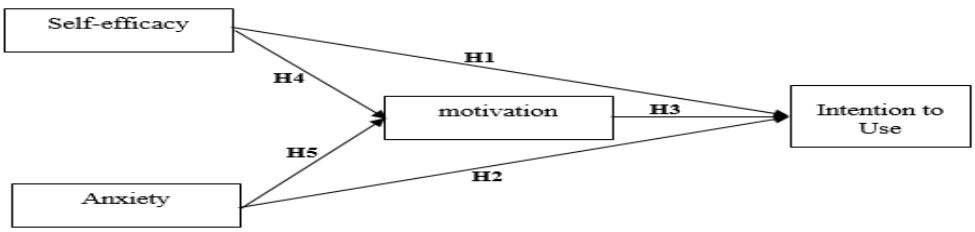

Figure 1. Proposed Conceptual Model

H1: The Self-efficacy of lecturer will have a significant positive influence on intentions to use web-based e-learning systems.
H2: The Anxiety of lecturer on the use web-based e-learning systems will have a significant positive influence on intentions to use.
H3: The motivation of lecturer to use web-based e-learning systems will have a significant and positive influence on intentions to use.
H4: The Self-efficacy of lecturer will have a significant positive influence on motivation to use web-based e-learning systems.
H5: The Anxiety of lecturer on the use web-based e-learning systems will have a significant positive influence on motivation to use.

4. METHODOLOGY

The quantitative research methodology that was used in this investigation was developed through the use of objective measurements, statistical and numerical analysis, as well as data collection techniques such as questionnaires and surveys, among other methods. As in the previous case, this method of investigation was also employed in this particular investigation. When computational techniques are used in the process of manipulating previously collected statistical data, it is possible to manipulate previously collected statistical data using quantitative methods, which represents a significant advancement over previous methods when compared to previous methods. The collection of numerical data with the goal of generalising it across groups of people or explaining a specific phenomenon is required in order to achieve success in quantitative research.

5. POPULATION AND SAMPLING.

The participants in this survey, including the schools and respondents, were selected through the use of convenience sampling techniques. The participants in this survey, including the schools and respondents, were selected through the use of convenience sampling techniques for this particular survey. According to the Business School on the Rabigh campus, a large proportion of students use computer-based tools to complete their homework assignments and other tasks. Furthermore, according to the school, many lecturers have used computing systems to improve accuracy even before the introduction of eLearning, and the vast majority of them have used computers to collect data for school-related activities. A questionnaire was given to approximately 100 of the company's 150 employees in total, and the questionnaires were then distributed to the remaining employees. The study, which was conducted with a sample drawn from the business school at Rabigh King Abdul-Aziz University in Saudi Arabia, involved 65 participants from Rabigh King Abdul-Aziz University. It was discovered that there were still valid surveys to be found after a thorough review of the data, resulting in a favourable response rate for the entire sample after a thorough review of the data. To further their education, all of the participants are taking advantage of web-based e-learning opportunities.

6. INSTRUMENTATION

A questionnaire is a type of research instrument that consists of a series of questions or other types of prompts that are designed to gather information from a respondent. The researchers were successful in achieving their research objectives and achieving their goals by developing a structured questionnaire on the basis of similar instruments that had previously been mentioned in the literature and putting it into action. The literature has

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previously mentioned a similar questionnaire, and this one is based on that questionnaire [37-47] After much deliberation, the final questionnaire consisted of 15 items that measured the four constructs that were investigated (See Table 1).

Table 1. The research Items

Construct	Code	Items	Reference
Motivation (MT)	MT1	I have to use e-learning system because	Waheed et al. (2013), Malureanu et al. (2021), Wasala and Kaluarachchi (2021)
	MT2	Web-based e-learning is less constrained by spatial limitation	
	MT3	Web-based e-learning is less constrained by time	
	MT4	Web-based e-learning is less constrained by number of student enrolment	
Anxiety (AN)	AN1	I am worried during exams and other student assessment that the computer finish the things I want to do it without problems .	Abdullah and Ward (2016), Al-Fraihat et al. (2020)
	AN2	There is trouble regarding some work that can only be completed by using a computer	
	AN3	When I face error messages on the computer , I do it know what to do if the technical support do not answer or help in the same time I need it .	
	AN4	I feel scared of losing some assessment or grades because of related computer and technology technical problem .	
Self-Efficacy (SF)	SF1	I am confident that I can connect to the web pages I need it anytime , anywhere	Oh et al. (2020), Bubou and Job (2020)
	SF2	I am confident that I can use the internet to download the information I need it	
	SF3	I am confident that I can use internet resources to improve the knowledge	
Intention to Use (IS)	IIB1	In the future I would use web-based e-learning system in all education services	Huang et al. (2020), Sharma et al. (2020), Almetere et al. (2020)
	IIB2	I'm willing to use web-based e-learning system to replace other traditional methods I used before	
	IBB3	If there are learning needs , I would choose web-based e-learning for all educational activities	
	IIB4	Overall, I would use the method of web-based e-learning for education services .	

7. MEASUREMENT OF VALIDITY AND INTERNAL CONSISTENCIES.

In this study, the reliability of internal consistency is assessed using a composite reliability index (CR), which is presented in Table 2. (CR). This method makes use of all of the correlation coefficients, outer loadings, and Average Variance Extracted that have been calculated (AVE). Following consultation with three experts in e-learning and the results of a pilot study conducted on a sample of ten lecturers at the King Abdulaziz University of Saudi Arabia's Rabigh campus, the questionnaire was found to have high content validity, as determined by the opinions of three experts in the field of e-learning and the results of the pilot study. In this case, the internal consistency reliability test produced positive results, which are shown in Table 2 below. Because of the feedback, a few questions on the questionnaire were changed, and three questions were completely rewritten as a result of the feedback. Cronbach's alphas were calculated for each construct under investigation in order to assess the reliability of the questionnaire for each construct under investigation. For all four measures, the reliability level was found to be higher than the minimum standard of 0.70, which is recommended, and was deemed acceptable by the researchers.

Table 2. Analysis Result of the Internal Consistency and Convergent Validity Analysis

Construct	Code	loading	AVE	CR	Cronbach's Alpha
Motivation (MT)	MT1	0.791	0.845	0.971	0.911
	MT2	0.933			
	MT3	0.912			
	MT4	0.878			
Anxiety (AN)	AN1	0.877	0.924	0.917	0.895
	AN2	0.975			
	AN3	0.890			
	AN4	0.910			
Self-Efficacy (SF)	SF1	0.890	0.897	0.922	0.841
	SF2	0.973			
	SF3	0.917			
Intention to Use (IS)	IIB1	0.855	0.871	0.902	0.957
	IIB2	0.947			
	IBB3	0.799			
	IIB4	0.912			

8. RESULTS AND DISCUSSION

The result of the analysis of this study is presented in this section. It was determined whether or not the model's structural integrity was intact using the model fit indices described in the preceding section. The outcomes were encouraging. The results were consistent with the predictions made by the measurement model when compared to the actual results. After conducting the investigation, it was discovered that the model's structural characteristics were a good match with the data.

In accordance with the findings of the study, each hypothesis was proven correct; however, there was a statistically significant positive relationship between self efficacy and motivation to use elearning, as indicated by the standardised path coefficients, which were both statistically significant positive relationships, as indicated by the standardised path coefficients. Among

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lecturers who used an online e-learning system, it was discovered that high levels of motivation were associated with high levels of self-efficacy in the system, according to the findings of a recent study. A statistically significant positive effect on anxiety of use was discovered for both motivations and intentions to use, as well as eLearning, with the standardised path coefficients for these two variables being the most influential.

In this research, it appears that when lecturer motivation or self-efficacy to use web-based e-learning systems was high, there was also a high intention to use the system, as evidenced by the data collected. Because the standardised path coefficient was statistically significant, the factor of anxiety had a statistically significant positive impact on the factor of motivation for use, as demonstrated by the standardised path coefficient. When lecturers' motivation for using web-based e-learning systems was high, their ability to use the systems was also high; on the other hand, when lecturers' anxiety about using the systems was high, their ability to use the systems was also low; When there is a strong sense of motivation, lecturers are more likely to adopt. It was discovered through the use of a standardised path coefficient that self-efficacy had a statistically significant positive effect on intentions to use marijuana. Also discovered was that motivation had a statistically significant positive impact on intentions to use marijuana in the first place. A statistically significant positive effect on intentions to use was also demonstrated by motivation, indicating that there is a statistically significant positive relationship between the two variables. There was a statistically significant positive effect on intentions as a result of anxiety, indicating that anxiety had a statistically significant positive effect on intentions.

As demonstrated by these findings, when self-efficacy and motivation for use were high, the intentions to actually use the product were strong as a result of the high levels of these factors. Using web-based e-learning systems resulted in significantly lower levels of anxiety among lecturers, indicating that the use of web-based e-learning systems was associated with significantly lower levels of anxiety among lecturers. This investigation was carried out under the assumption that the hypothesis was not supported by the data collected. When motivation is used to mediate the relationships between self efficacy and motivation, anxiety of use was found to be one of the variables that explained 78 percent of the variance in these two variables. This is more prevalent when there is no mediation on the relationship between self efficacy, anxiety, and the intention to use drugs or alcohol. Anxiety is responsible for 32 percent of the variability, while self-efficacy accounts for 42 percent of the variability. Similar to this, there is a strong relationship between self-efficacy and anxiety in relation to intent to use (see Table 3). A summary of the standardized coefficients for predictive paths is therefore provided for the purpose of facilitating comparisons between different paths in a straightforward manner, To determine whether there was a relationship between two external variables, such as motivation to use marijuana and anxiety, it was conducted a regression analysis.

Table 3The direct, indirect and total effect of dominants on behavioral intention

Cause relationship	Effect
SE→MT	**0.429**
AN→MT	**0.326**
SE→IN	**0.169**
AN→IN	**0.243**
MT→IN	**0.351**
SE→MT→IN	**0.78**
AN→MT→IN	**0.677**

9. IMPLICATION OF THE STUDY

Teachers' self-efficacy and anxiety are both positively influenced by their desire to use web-based e-learning systems, according to a new study. It was discovered that studies

on the intention to use of online elearning systems discovered that self-efficacy was significantly influenced, whereas studies on the usefulness of online elearning system discovered that systems' association with the systems was significantly affected. Additionally, the findings of this study on web-based e-learning systems revealed that self-efficacy had a significant impact on the outcomes of learning activities.

Self-efficacy refers to one's beliefs about one's ability to complete a task, and it can have an impact on one's activity selection, effort, perseverance, and level of achievement. Prior experience, personal characteristics, and social support all play a role in determining one's level of self-efficacy when engaging in an activity. As they carry out their responsibilities, they gather information about their performance. This information has an impact on their self-efficacy in terms of continuing their learning and improving their performance. In this paper, we describe research in which self-efficacy was increased through the use of interventions such as models, goal setting, and feedback. Whatever the domain, research has shown that self-efficacy can help predict motivation and performance in a variety of situations. Furthermore, studies testing causal models have revealed that self-efficacy plays a significant role. According to the findings, the variables examined in this study had an impact on use intentions for web-based e-learning systems through the use of intervening variables, which were manipulated by the researchers. Among these external variables, motivation is the critical intervening variable that must be taken into consideration when determining which external variables have the greatest influence.

There is a positive relationship between motivation to use web-based e-learning systems for teaching and learning, and the intention to use these systems for teaching and learning. This finding is consistent with the findings of a large number of studies, all of which have found A significant positive impact on the behavioural intentions of those who planned to use web-based e-learning systems in the future was observed when the motivation for using these systems was examined. During a study on the usage intentions and perceived motivation of latent users of web-based e-learning systems, it was discovered that both self-efficacy and perceived motivation of using web-based e-learning systems were important factors in the formation of behavioural intentions toward web-based e-learning systems. This was the first time that this had been discovered. Following extensive investigation into the factors that influence the acceptance of e-learning systems and the acceptance of information technology by lecturers, it was discovered that self-efficacy and motivation to use were the two most important factors influencing acceptance and usage intentions.

The findings of this study were used to highlight the factors that influenced lecturers' intentions to use web-based e-learning systems for educational purposes. Professors' intentions to use a web-based e-learning system were found to be influenced by their motivation for doing so, which emerged as an intervening variable that moderated the impact of anxiety and self-efficacy on their intentions to use the system. The findings of this study revealed that the latent variable had an impact on the impact of intentions to use web-based e-learning systems in situations where motivation to use web-based e-learning systems is useful, and that the latent variable had a stronger interaction with the intentions to use such systems. In accordance with previous research, our findings revealed that self-efficacy is the most important factor influencing intentions to use, with motivation ranking as the second most important factor. Several studies have found that university lecturers use elerarning to obtain information in order to be effective. As a result, if web-based e-learning systems can

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provide information that is useful to the lecturer, it is expected that the lecturer's intentions to use these systems will be strengthened. In accordance with the findings of this study, motivation was significantly influenced by Internet use and, more specifically, Internet self-efficacy. The findings can be used to guide the development of web-based e-learning systems that provide e-learning functions that are more acceptable to university lecturers, as well as the promotion of innovative information technology platforms that open up channels for current lecturers to take advantage of their positions. The ability to learn efficiently and rapidly expand one's professional expertise is enhanced when lecturers have access to a flexible and convenient learning environment.

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